

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE	PAGE OF PAGES 1 12	
2. AMENDMENT/MODIFICATION NO. 103	3. EFFECTIVE DATE See Block 16C	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-OS-ODIN Kennedy Space Center, FL 32899	CODE	7. ADMINISTERED BY (If other than Item 6)		CODE
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code) OAO Corporation 7375 Executive Place Seabrook, MD 20706-2278		(x) 9A. AMENDMENT OF SOLICITATION NO. 9B. DATED (SEE ITEM 11) 10A. MODIFICATION OF CONTRACT/ORDER NO. NAS5-98144/CC90303B 10B. DATED (SEE ITEM 13) December 1, 2001		
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
[] The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers [] is extended, [] is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning ____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
12. ACCOUNTING AND APPROPRIATION DATA (If required)				

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes
	D. OTHER (Specify type of modification and authority)
E. IMPORTANT: Contractor [] is not, [X] is required to sign this document and return <u>1</u> copies to the issuing office.	
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)	

Stennis Space Center --- ODIN SERVICES

Incorporate 11 Technology Infrastructures Upgrades previously approved via "Fast Track" process

Change in Delivery Order Value: \$73,018.67 (INCREASE)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Keith L. Spencer Sr. Contracts Manager		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Penelope A. Ebright Contracting Officer	
15B. CONTRACTOR/OFFEROR Original signed by Keith L. Spencer (Signature of person authorized to sign)	15C. DATE SIGNED 10/30/2003	16B. UNITED STATES OF AMERICA BY Original signed by Penelope A. Ebright (Signature of Contracting Officer)	16C. DATE SIGNED 10/31/2003

1. In accordance with Master Contract NAS5-98144, C.7, Technology Refreshment Process, the technology refreshment services referenced below is hereby incorporated into this Delivery Order at a fixed price of \$73,018.67. These infrastructure upgrades were previously approved through the "Fast Track" approval process.

SWR #	Subject	Date of FT Approval	Amount
10AF 0048 00 Rev 01	Install (1) 48-strand multimode and (1) 48 strand singlemode fiber cable from room 112 to room 116 in B1201 to support CCTV for NASA	9/25/03	\$15,311.76
5400 3N26 00	Install Cat3, Cat6 RG6 coax, 1-pair audio wire and fiber cable from Projection Booth, B1200 to north curbside of B1200 in support of satellite uplink truck	9/29/03	\$8,358.37
5400 3N56 00	Install Cat6 and Cat3 wiring in new addition of B2120 to support networks and telephones for NASA	9/25/03	\$8,746.55
DB00 0371 00	Install (2) duplex singlemode fiber cables from room 339A to room 241 in B1100 for NDBC	10/28/03	2,065.42
NJ00 L3AP 00	Install (1) 36-port analog card into PointSpan in B1002 to support NAVOCEANO changeover to analog phones from current digital phones on 1 st floor	9/29/03	\$7,246.04
NJ00 L3AQ 00	Install duplex multimode fiber cable to various rooms in B1002 to support networks for NAVOCEANO	9/25/03	\$15,751.84
P203 3N50 00	Install GFE Cisco 6509 replacing existing Cabletron Smart Switch 6000 in B4010 for NASA	9/29/03	\$4,306.14
P203 3N55 00	Remove communication wiring (except for telephone jacks on outer walls) unaffected by building modification room S170A area, B1100 in preparation of new Navy Exchange store	9/25/03	\$3,948.55
P203 4212 F2	Install duplex fiber cable from room C101 to room C116 in B1100 to support VITS for NASA	10/28/03	\$808.83
P203 4212 F3	Attendance of one System Administrator at Cisco training course "Cisco Works for LAN/WAN Enterprise Management (CWENT)" in Dallas TX	10/28/03	\$5,780.76
XJCY 4491 00	Install 689 telephone number from B1201 to GM&R trailer located at west end of B1100S for NASA	10/28/03	\$694.41
	TOTAL		\$73,018.67

2. SWR 10AF 0048 00 Rev 01

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabaling and equipment installation) necessary to install (1) 48 strand multimode and (1) 48-strand singlemode fiber cable from room 112 to room 116 in B1201 to support CCTV for NASA as identified in OAO proposal dated September 10, 2003.

a. The contractor shall perform the following tasks:

- (1) Install (1) 48-strand plenum multimode and (1) 48-strand plenum singlemode fiber cable from room 112 to room 116 in B1201.
- (2) Install (1) 144-port LGX in room 112 and (1) in room 116.
- (3) Install (1) pack of 1200ST panels and (48) A3000 singlemode couplers and (48) A2000 multimode couplers in room 112 and (1) in room 116.
- (4) Terminate fibers into ST connectors on both ends and place in the LGX panels that were installed in item (2) above.
- (5) Test and label both cables at both ends.
- (6) Provide OAO with redline drawing showing route taken and cable number so that drawings can be updated.
- (7) Provide fiber jumpers to OAO so that they can make cross connect to different buildings.

b. The contractor shall provide the following material:

- (1) 175 feet Corning Mc Plenum48 SM(370-948-SMODE-48)
- (2) 175 feet Corning Mic lenum 48 MM (370-949-FD?DI-48)
- (3) 192 each cool cure consumables (142172)
- (4) 96 each P3020A-C-125 singlemode ST connectors (157475)
- (5) 96 each A3000 singlemode ST couplers (184326)
- (6) 96 each P2020C-C-125 multimode ST connectors (170290)
- (7) 96 each A2000 multimode ST couplers (184324)
- (8) 2 each LST1U-144/9 termination shelf (172178)
- (9) 2 packs 1200ST panels (178743)
- (10) 1-meter duplex SM fiber ST/ST jumper (151986)
- (11) 2-meter duplex SM fiber ST/ST jumper (151987)
- (12) 3-meter duplex SM fiber ST/ST jumper (151988)
- (13) 4-meter duplex SM fiber ST/ST jumper (1FSMD-2277-4M)
- (14) 5-meter duplex SM fiber ST/ST jumper (151989)
- (15) 3-meter duplex MM fiber ST/ST jumper (129351)
- (16) 4-meter duplex MM fiber ST/ST jumper (173135)
- (17) 5-meter duplex MM fiber ST/ST jumper (129352)
- (18) 6-meter duplex MM fiber ST/ST jumper (199444)
- (19) 8-meter duplex MM fiber ST/ST jumper (199445)

c. Schedule: The completion of this effort shall be ten (10) weeks after "Fast Track" approval.

3. SWR 5400 3N26 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabaling and equipment installation) necessary to install Cat3, Cat6 RG6 coax, 1 pair audio wire and fiber cable from the Projection Booth, B1200, to north curbside of B1200 in support of satellite uplink truck as identified in OAO proposal dated May 31, 2003.

a. The contractor shall perform the following tasks:

- (1) Install (6) 4-pair Cat3 wires from room 204D out thru existing conduit to room 204E and then thru new conduit to new weatherproof box placed by other contractor to curbside.
- (2) Install (6) 4-pair Cat5 wires from room 204D out thru existing conduit to room 204E and then thru new conduit to new weatherproof box placed by other contractor to curbside.
- (3) Install (4) 1-pair shielded wires from room 204B out thru existing conduit to room 204E and then thru new conduit to new weatherproof box placed by other contractor to curbside.
- (4) Install (4) RG6 coax cables from room 204B out thru existing conduit to room 204E and then thru new conduit to new weatherproof box placed by other contractor to curbside.
- (5) Install (1) 6mm/6sm fiber cable from room B105E out thru existing conduit to room 204E and then thru new conduit to new weatherproof box placed by other contractor to curbside.
- (6) Terminate fiber into ST connectors at both ends.
- (7) Terminate RG6 coax into BNC connectors on both ends.
- (8) Terminate Cat5 wiring on 110 wiring blocks in room 204D and into Cat5 jacks in weather proof box at curbside.
- (9) Terminate Cat3 wiring on 110 wiring blocks in room 204D and into Cat3 jacks in weather proof box at curbside.
- (10) Terminate 1-pair audio cable into XLR connectors on both ends.
- (11) Test and label fiber cable, Cat5, Cat3, RG6 and 1-pair audio cables.
- (12) Provide redline drawing to OAO who will update communications drawings.

b. The contractor shall provide the following material:

- (1) 1,200 feet of Belden RG6 plenum coax (82248)
- (2) 1,200 feet of Belden STP plenum 1-pair copper wire (B8451)
- (3) 1,200 feet of Belden Cat5 plenum wire (CMP-00424BEL-5U-06)
- (4) 1,200 feet of Avaya Cat3 plenum wire (CMP-00424MAX-3U)
- (5) 350 feet of plenum Corning HYBRID MIC fiber cable (370949-HYBRID-6/6)
- (6) 24 each cool consumables (142172)
- (7) 12 each P3020A-Z-125 singlemode ST connectors (157475)
- (8) 12 each C3000A-2 singlemode ST couplers (105263)
- (9) 12 each P2020C-C-125 multimode ST connectors (118974)
- (10) 12 each C2000A multimode ST connectors (088987)
- (11) 12 each 110C-4 connectors (073039)
- (12) 6 each IMO II PCB BNC inserts (152895)
- (13) 6 each AMP BNC connectors (239844)
- (14) 5 each 110C-5 connectors (061268)
- (15) 5 each Panduit deep outlet boxes (207082)
- (16) 4 each Avaya 10A panels for Avaya 100A LIU's (088980)
- (17) 3 each IMO II PCB dual T568A/B Cat5 jacks (2489 45)
- (18) 3 each IMOII PCB dual RJ11 USOC jacks (148035)
- (19) 3 each IM O II PCB singlegang faceplate (148025)
- (20) 4 each Switch Craft XLR type connector (K3FS) (22F1032) Newark
- (21) 3 each Avaya 100A LIU (146050)
- (22) 1 each Panduit deep dual gang outlet box (203852)
- (23) 1 each IMO II PCB dual gang faceplate (148026)

- c. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

4. SWR 5400 3N56 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install Cat6 and Cat3 wiring in new addition of B2120 to support networks and telephones for NASA as identified in OAO proposal dated September 9, 2003.

- a. The contractor shall perform the following tasks:

- (1) Install (2) Cat6 wires and (1) Cat3 wire to (14) locations and terminate on (2) jacks for Cat and Cat3.
- (2) Install (2) Cat6 wires to (6) locations and terminate on (2) Cat6 jacks.
- (3) Install (1) Cat3 wire to (5) locations and terminate on (2) Cat3 jacks.
- (4) Install (1) single gang faceplate at each of the locations listed in items 1, 2 & 3.
- (5) Install (2) 112-pair Visipatch panels in room 104 and terminate all the Cat6 wires on it.
- (6) Install (1) 112-pair Visipatch panel in room 104 and terminate (24) Cat6 solid copper cables on it and run up to network hub.
- (7) Install (1) 110 wiring block in room 104 and terminate all the Cat3 wires on it.
- (8) Install (1) blank faceplate over outlet boxes that won't be used because they were put in the wrong place per Child Care manager.
- (9) Install blank inserts in all faceplates that only have two jacks installed in them.
- (10) Test and label Cat6, Cat3 wiring and solid copper cables.
- (11) Provide OAO with a red line drawing showing jack numbers and locations.

- b. The contractor shall provide the following material:

- (1) 4,000 feet of Avaya 2071 Cat6 wire (CMP-00424-MAX-7U-06) blue
- (2) 4,000 feet of Avaya Cat3 wire (CMP00424MAX-3U) white
- (3) 50 each Velcro ties
- (4) 40 each Avaya T568A/B Cat6 jack (246746) green
- (5) 40 each 14 feet Cat6 station cords (MM14-AV7E-04) green
- (6) 38 Avaya T568A/B Cat3 jacks (240706) white
- (7) 30 each Caddy J-hooks (184873)
- (8) 25 each Avaya M14L-262 faceplate (197613) white
- (9) 24 each Avaya Cat6 solid copper cords (108793-969-06-25) green
- (10) 22 each Avaya white faceplate blank inserts (146674)
- (11) 20 each "D" rings
- (12) 12 each Avaya Visipatch distribution rings (532421)
- (13) 10 each Leviton blank faceplates
- (14) 3 each Avaya 112-pair Visipatch panel (542990)
- (15) 2 packs 110C-4 connectors (073039)
- (16) 2 each Avaya Visipatch horizontal duct (539650)
- (17) 1 each Avaya 100-pair terminal block (154069)
- (18) 1 pack Avaya clear label holder (532425)

- c. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

5. SWR DB00 0371 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install (2) duplex singlemode fiber cables from room 339A to room 241 in B1100 for NDBC as identified in OAO proposal dated October 8, 2003.

a. The contractor shall perform the following tasks:

- (1) Install (2) duplex singlemode fiber cables from room 339A down to room 241 in B1100.
- (2) Install (1) Panduit outlet box in room 339A and (1) in room 241.
- (3) Install (1) faceplate equipped with (2) fiber inserts and (1) blank in room 339A and room 241.
- (4) Terminate fiber into ST connectors on both ends and place in fiber inserts on both ends.
- (5) Test and label fiber.
- (6) Provide redline drawing to LMIT so that communications drawings can be updated.

b. The contractor shall provide the following material:

- (1) 160 feet of Corning duplex singlemode fiber cable (370-948-SMODE-02)
- (2) 8 each cool cure consumables (142172)
- (3) 8 each P3020A-C-125 singlemode ST connectors (157475)
- (4) 4 each Ortronics blanks (148027)
- (5) 4 each Ortronics duplex fiber inserts (162979)
- (6) 3 each 2-meter singlemode ST/SC fiber jumper (152037)
- (7) 3 each 3-meter singlemode ST/ST fiber jumper (151988)
- (8) 2 each Panduit outlet boxes (205872)
- (9) 2 each Ortronics faceplates (148025)
- (10) 1 each fiber transceiver (Milan MIL S-3413-15) (238280)
- (11) 2-meter singlemode ST/ST fiber jumper (151987)
- (12) 3-meter singlemode ST/ST fiber jumper (151988)
- (13) 1 each 5-meter singlemode ST/ST fiber jumper (151989)

c. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

6. SWR NJ00 L3AP 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install (1) 36-port analog card into PointSpan in B1002 to support NAVOCEANO changeover to analog phones from current digital phones on 1st floor as identified in OAO proposal dated July 25, 2003.

a. The contractor shall perform the following tasks:

- (1) Install (1) SASI card equipped with 36 analog ports in PointSpan in new addition of B1002.
- (2) Test card before adding any new customers.
- (3) Update records after adding new SASI card.

b. The contractor shall provide the following material:

- (1) 1 each SASI card (300-0430-501)

- c. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

7. SWR NJ00 L3AQ 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install duplex multimode fiber cable to various rooms in B1002 to support networks for NAVOCEANO as identified in OAO proposal dated September 3, 2003.

- a. The contractor shall perform the following tasks:

- (1) Install (1) unclassified duplex multimode fiber in room 133.
- (2) Install (1) classified duplex multimode fiber in room 183.
- (3) Install (1) unclassified duplex multimode fiber and (7) classified duplex multimode fibers in room 271.
- (4) Install (1) unclassified duplex multimode fiber and (1) classified duplex multimode fiber in room 271A.
- (5) Install (2) unclassified duplex multimode fibers and (5) classified duplex multimode fibers in room 279.
- (6) Install (1) classified duplex multimode fiber in room 291G.
- (7) Install (4) classified duplex multimode fibers in room 295B.
- (8) Install (1) 96-port fiber cabinet equipped with multimode ST couplers in room 295 network room.
- (9) Install Panduit raceway and Panduit outlet boxes at each location.
- (10) Install faceplate equipped with correct amount of fiber inserts at each location.
- (11) Terminate fiber into ST connectors and place into fiber inserts.
- (12) Test all new installed fibers.
- (13) Test (2) duplex multimode fiber cables and make repairs if necessary.

- b. The contractor shall provide the following material:

- (1) 7,000 feet of Corning MIC duplex fiber cable (370-949-FDDI-02)
- (2) 104 each P2020C-C-125 multimode ST connectors (170290)
- (3) 104 each cool cure consumables (142172)
- (4) 50 each IMO II PCB blank modules (148027)
- (5) 25 each IMO II PCB duplex fiber inserts (162979)
- (6) 25 each IMO II PCB singlegang faceplate (148025)
- (7) 25 each Panduit LD10 raceway (131155)
- (8) 25 each Panduit LD5 raceway (131156)
- (9) 20 each Panduit LD3 raceway (131157)
- (10) 20 each Panduit outlet boxes (201336)
- (11) 10 each Panduit type T raceway (227204)
- (12) 10 each Panduit type T raceway cover (227211)
- (13) 10 packs Panduit T wire retainers (174452)
- (14) 5 each caddy clips (157703)
- (15) 2 packs Panduit TEEs (142140)
- (16) 2 packs Panduit inside corners (131130)
- (17) 2 packs Panduit end caps (131132)
- (18) 2 packs Panduit right angle (131126)
- (19) 2 packs Panduit reducer fitting (142142) RF10X51W-X
- (20) 2 packs Panduit reducer fitting RF10X31W-X
- (21) 2 each Panduit type T end cap (174436)
- (22) 2 each Panduit type T inside corner (174430)

- (23) 2 each Panduit type T outside corner (174433)
- (24) 2 each Panduit type T outside corner cover (174434)
- (25) 1 each Century 96-port fiber cabinet (FCL-96SL-LM96)

c. Schedule: The completion of this effort shall be six (6) weeks after "Fast Track" approval.

8. SWR P203 3N50 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install GFE Cisco 6509 replacing the existing Cabletron Smart Switch in B4010 for NASA as identified in OAO proposal dated September 18, 2003.

a. The contractor shall perform the following tasks:

- (1) Install one GFE Cisco Cat6509 in 4010
- (2) Install 2 48 port 10/100 cards in Cat6509
- (3) Install 1 Supervisor Card in Cat6509
- (4) Provide Gigabit Ethernet Uplink to 4010-CSC1
- (5) Update databases
- (6) Update network drawing
- (7) Update network security plan
- (8) All work related to this IUP will be performed outside of prime hours to cut down on outage.
- (9) This also assumes SWR 5400-3N27-00 has been completed prior to time line for this IUP starting.
- (10) Label the (48) solid copper cables that BOE-TEL installed.
- (11) Place cross connects to cutover to new network hub.
- (12) Install new UPS to replace existing outdated UPS.
- (13) Install (1) 110 wiring block.
- (14) Install and terminate 48 Cat5E cords solid copper cords from Cisco 6509 to 110 wiring block.

b. The contractor shall provide the following material:

- (1) 48 each 20 foot Cat5E cords with a RJ-45 on one end (T3A00BNCZ06-20)
- (2) 5 packs of 110C-4 connectors for a 110 block (073039)
- (3) 1 each 110AW2-300 pair 110 block (154071)
- (4) 1 each APC Smart-Ups XL 2200VA 120v (185614)
- (5) 1 each APC Smart-ups XL 48V Battery Pack SU48xLBP (168870)
- (6) 1 each APC Back plate Kit W/(4) 5-15R (2) 5ALT-20R, (1) L5-20R for SU200NET SU029 (189016)

c. NASA will provide the following material:

- (1) 1 each GFE Cisco Catalyst 6509
- (2) 2 each GFE Cisco 1500W AC Power supply for the Catalyst 6509
- (3) 2 each GFE Cisco power Cords
- (4) 1 each GFE Cisco Catalyst 6000 Supervisor Engine-1A
- (5) 2 each GFE Cisco Catalyst 6500 10/100 WS-X6348-RJ-45
- (6) 2 each GFE Cisco GBIC's LX

d. NASA will be responsible for the installation of a NEMA L5-30P (30A Twist-Lock) power circuit in room 204.

- e. Schedule: The completion of this effort shall be ten (10) weeks after "Fast Track" approval.

9. SWR P203 3N55 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to remove communication wiring (except for telephone jacks on outer walls) unaffected by building modification in room S170A area, in B1100 in preparation of new Navy Exchange store as identified in OAO proposal dated August 7, 2003.

- a. The contractor shall perform the following tasks:

- (1) Remove all communications wiring from rooms S170A, S170B, S170C, S170D, S170F, S170G, S170K, & S170J back to communications closets. Leave all telephone jacks on outside walls that aren't being modified.
- (2) Install (3) existing telephone wires that presently run down power poles into walls and terminate into new jacks using the existing faceplates where network wires will be removed.
- (3) Work will have to be done after hours due to asbestos above ceiling.

- b. The contractor shall provide the following material:

- (1) 3 each IMO II PCB dual USOC RJ11 jack (148035)

- c. Schedule: The completion of this effort shall be two (2) weeks after "Fast Track" approval.

10. SWR P203 4212 F2

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install duplex fiber cable from room C101 to room C116 in B1100 to support VITS for NASA as identified in OAO proposal dated October 17, 2003.

- a. The contractor shall perform the following tasks:

- (1) Install (1) duplex multimode fiber cable in 3/8" flex aluminum conduit.
- (2) Install fiber and flex conduit from room C101 to room C116.
- (3) Install (1) faceplate equipped with fiber insert in room C101.
- (4) Terminate fiber into multimode ST connectors on both ends.
- (5) Test and label fiber on both ends.
- (6) Provide LMIT with red line drawing showing route and jack number.

- b. The contractor shall provide the following material:

- (1) 100 feet Corning MIC duplex fiber cable (370-949-FDDI-02)
- (2) 100 feet 3/8" flex aluminum conduit
- (3) 4 each P2020C-C-125 multimode ST connectors (170290)
- (4) 4 each cool cure consumables (142172)
- (5) 3 each 1-meter multimode ST/ST jumper (129350)
- (6) 1 each Ortronics duplex fiber insert (162979) 180 degree
- (7) 1 each Ortronics duplex fiber insert (173630) 55 degree
- (8) 1 each Ortronics faceplate (148025)
- (9) 1 each Panduit box (205872)
- (10) 1 each Caddy clip (157703)
- (11) 1 each 2-meter multimode ST/ST jumper (139055)
- (12) 1 each 4-meter multimode ST/ST jumper (173135)

- c. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

11. SWR P203 4212 F3

The contractor shall send one System Administrator to attend Cisco training course entitled "Cisco Works for LAN/WAN Enterprise Management (CWENT)" in Dallas TX in November 2003 as identified in OAO proposal dated October 21, 2003.

- a. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

12. SWR XJCY 4491 00

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling and equipment installation) necessary to install 689 telephone number from B1201 to GM&R trailer for NASA as identified in OAO proposal dated October 17, 2003.

- a. The contractor shall perform the following tasks:

- (1) Install (1) single-pair station protector on trailer and (1) single-pair station protector in air handler room in B1100 Southwest end and ground each to an approved ground.
- (2) Install (1) Cat3 wire in trailer and connect to existing jack.
- (3) Install (1) Cat3 wire from the single-pair station protector in air handler room over to existing wire feeding room 11153D and splice together.
- (4) Install (1) single-pair station drop from air handler room out to trailer beside electrical and place under 2" x 12" boards that contractor put across driveway.
- (5) Test new line from trailer back to communications closet (RM11128)
- (6) Make cross connects from B1201 to Trailer to activate jack.

- b. The contractor shall provide the following material:

- (1) 300 feet of single-pair station drop (F-02C19DS)
- (2) 100 feet of Avaya Cat3 wire (CMP-0042MAX-3U) white
- (3) 20 feet of #6 ground wire
- (4) 2 each Marconi single-pair protectors (6680610)

- c. Schedule: The completion of this effort shall be four (4) weeks after "Fast Track" approval.

13. Part II "Contract Administration Data", Item 4, is revised as indicated below to incorporate the increase of \$73,018.67 for these infrastructure upgrades:

ESTIMATED TOTAL (Contract Item 4) (through Mod 103)

Ordered Seats and Services	\$ 8,630,988.46
Catalog Actuals	\$ 481,597.49
Specialized Services Actuals	\$ 9,900.00
Infrastructure upgrades	\$ 2,825,484.08
Fast Track Mods Authorized	\$ -
Subtotal	\$ 11,947,970.03
Less credits	\$ (2,625.55)
Less retainage not earned	\$ (94,456.36)
Subtotal	\$ 11,850,888.12
Seats/service levels projected through 11/30/04	\$ 4,954,395.58
Total Estimated Delivery Order Value	\$ 16,805,283.70

14. Part V "Technology Infusion (Infrastructure Upgrades)", Item 2 is modified to include the subject infrastructure upgrades. The signed date and completion date will be completed in a future infrastructure upgrade modification.

Mod No.	Description	Date Signed	Date Completed	Amount
103	10AF 0048 00 Rev 01 Install (1) 48-strand multimode and (1) 48 strand singlemode fiber cable from room 112 to room 116 in B1201 to support CCTV for NASA			\$15,311.76
103	5400 3N26 00 Install Cat3, Cat6 RG6 coax, 1-pair audio wire and fiber cable from Projection Booth, B1200 to north curbside of B1200 in support of satellite uplink truck			\$8,358.37
103	5400 3N56 00 Install Cat6 and Cat3 wiring in new addition of B2120 to support networks and telephones for NASA			\$8,746.55
103	DB00 0371 00 Install (2) duplex singlemode fiber cables from room 339A to room 241 in B1100 for NDBC to support networks and telephones for NASA			\$2,065.42
103	NJ00 L3AP 00 Install (1) 36-port analog card into PointSpan in B1002 to support NAVOCEANO changeover to analog phones from current digital phones on 1 st floor			\$7,246.04
103	NJ00 L3AQ 00 Install duplex multimode fiber cable to various rooms in B1002 to support networks for NAVOCEANO			\$15,751.84
103	P203 3N50 00 Install GFE Cisco 6509 replacing existing Cabletron Smart Switch 6000 in B4010 for NASA			\$4,306.14

Mod No.	Description	Date Signed	Date Completed	Amount
103	P203 3N55 00 Remove communication wiring (except for telephone jacks on outer walls) unaffected by building modification room S170A area, B1100 in preparation of new Navy Exchange store			\$3,948.55
103	P203 4121 F2 Install duplex fiber cable from 4oom C101 to room C116 in B1100 to support VITS for NASA			\$808.83
103	P203 4121 F3 Attendance of one System Administrator at Cisco training course "Cisco Works for LAN/WAN Enterprise Management (CWENT)" in Dallas TX			\$5,780.76
103	XJCY 4491 00 Install 689 telephone number from B1201 to GM&R trailer located at west end of B1100S for NASA			\$694.41

15. Payment Schedule: Invoicing and Payment for this modification will be made in accordance with Master Contract NAS5-98144, FAR 52.212-4: Commercial Items (May 1997) (Modified).

16. Reporting requirements: The contractor shall provide monthly status reports to the SSC Alternate DOCOTR, with a copy to the DOCO. These reports shall include as a minimum, installation progress, and potential problem areas.

17. In consideration of the modification agreed to herein as complete equitable adjustment for the changes set forth, the Contractor hereby releases the Government from any and all liability under this delivery order for further equitable adjustments attributable to such facts or circumstances giving rise to these changes.

18. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.